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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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INVENTOR(S): JAMES BURGHOFFER
TITLE: PAINT EDGER

BACKGROUND

1. Field of the Invention

10 The present invention relates to paint applicators used for applying paint at intersecting surfaces such as internal corners, or any other circumstance where two surfaces intersect.

2. Description of the Related Art

15 In the painting operation, the most difficult and time consuming task is the process of edging, namely the process of applying paint to one of two intersecting surfaces without applying paint to the corresponding surface. This can occur when either one of the intersecting surfaces is painted or both of the intersecting surfaces are painted.

20 There are many devices which attempt to provide a means for placing paint on one surface without having any of the paint contact the intersecting surface. However, none of the prior art devices have been successful in providing an apparatus which can apply paint to two intersecting surfaces simultaneously while maintaining the separation of the paints on the separate intersecting surfaces.

Numerous references describe paint edgers. However, none of these references teach or suggest the specific novel paint edger of the invention.

25 U.S. Patent No. 5,933,905 to Hess discloses a paint trimming apparatus having a

5 mounting plate having a front edge, a handle, a planar guide having a guide edge, and a guide support coupled to the mounting plate. The guide support pivotably couples the guide to the guide support to position the guide edge to overlie the front edge and position the guide between the loading position and the paint trimming position.

10 U.S. Patent No. 5,432,972 to Polzin et al. discloses a corner painting tool including a one-piece paint pad hinged longitudinally so that the contour of the pad may be changed from concave to flat to convex, enabling the paint pad to paint exterior corners, flat surfaces and interior corners. An inverted U-shaped handle is mounted to the opposing side edges of the paint pad. The user presses the handpieces to flex the one-piece pad to cause it to conform to the surface being painted.

15 U.S. Patent No. 5,293,662 to Newman, Sr. et al. discloses a corner paint pad assembly having two pads. However, there is no provision for separating the pads so that each can be used simultaneously and independently of the other to apply two different color paints at the same time to two different surfaces.

20 U.S. Patent No. 5,267,369 to O'Neil et al. discloses a corner painting tool having a pad whose contour may be changed by hand pressure on the applicator during painting.

U.S. Patent No. 5,134,745 to Burns et al. discloses a paint trimming device having a single paint pad and an edger in the form of a plate extending along the front edge of the base of the device, the edger having downwardly projecting runner means which enable paint carried by the paint pad to be placed up to but not beyond a certain point.

25 U.S. Patent No. 4,852,203 to LaBelle discloses a paint edger comprising a holder

5 with a quick-remove pad.

U.S. Patent No. 3,981,595 to Blake discloses a dispensing paint trimmer including a pair of guides positioned at right angles and a dispensing gun using a cartridge for painting one of two intersecting walls.

10 However, among the foregoing patents, none disclose or suggest the specific edge painter of the invention. The present application sets forth an apparatus comprising a frame having movable plates mounted to the frame which plates normally repose at right angles to each other and which are separated by a separator guide blade. Each of the plates mounts a separate applicator pad for paint which applicator pad can be swung away from the frame to enable application of paint to one surface without fear of contaminating
15 the surface of the other pad, which can have the same or a different color of paint applied to it. The separator guide blade maintains the separation of the applicator pads but allows close proximity. The guide blade is resiliently self-positioning to locate the intersection of the adjacent intersecting surfaces to maintain the proper positioning of the applicator pads as they are drawn along the intersecting surfaces.

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OBJECTS AND SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a durable edging apparatus for applying paints to intersecting surfaces which is simple to use.

25 It is a further object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which is easy to use.

It is yet another object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which can edge two opposing surfaces using two different color paint.

5 Another object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which can paint two opposing surfaces simultaneously using different colors.

Yet another object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which contain one of two surfaces at the discretion
10 of the operator.

A further object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which has paint applicator pads which are easy to change.

It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which apparatus is easy to clean.

15 It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which prevents running, dripping, or smearing of one color to the other color being applied.

It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which has a separator guide spring that prevents
20 contamination of one surface to the intersecting surface.

It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which has a spring guide that insures proper alignment of the applicator pads to the paint path.

It is an object of the present invention to provide an edging apparatus for applying
25 paints to intersecting surfaces which allows for separate application of paint to separate applicator pads.

It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which has movable pads that allow for spacing of pads during loading of paint to prevent contamination or mixing of colors.

30 It is an object of the present invention to provide an edging apparatus for applying

5 paints to intersecting surfaces which has movable pads that allow application of paint removed from the painting position of the apparatus which handle is positioned to allow application of paint and loading of pads without contacting the user's hands.

10 It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which allows for application of paint to the applicator pads using a single hand.

It is an object of the present invention to provide an edging apparatus for applying paints to intersecting surfaces which provides for mounting applicator pads so as the pads are easily replaceable without the applicator surface contacting the tool.

15 These, and various other and further features and advantages of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate by way of example the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view taken from the top rear of the paint edger of the present invention in closed position.

20 Fig. 2 is a perspective view taken from the top front of the paint edger of the present invention in open position.

Fig. 3 is a bottom plan view of the applicator pads of the paint edger of the present invention in the closed position.

25 Fig. 4 is a bottom plan view of the applicator pads of the present invention in the open position.

Fig. 5 is a front elevational view showing the applicator pads in the open position.

Fig. 6 is a front elevational view showing the applicator pads in the closed position.

Fig. 7 is a perspective view of the frame.

5 Fig. 8 is a schematic view showing the separator guide blade of the present invention.

 Fig. 9 is a partial view broken away showing the underside of the handle of the present invention.

10 Fig. 10 is a rear view of a first embodiment of an extension pole mount for the paint edger of the present invention.

 Fig. 11 is a top view of the extension pole mount of Fig. 10 with the extension pole coupling in position and assembled.

 Fig. 12 is a side view of the extension pole coupling of Fig. 11.

15 Fig. 13 is a rear view of a second embodiment of an extension pole mount for the paint edger of the present invention.

 Fig. 14 is a side view of the extension pole swivel coupling shown in Fig. 13.

DETAILED DESCRIPTION OF THE INVENTION

20 As shown in Figs. 1-14, the edging apparatus generally indicated at 100 has a handle 110 with two posts 114 and 116 extending upward and a grip 118 to be grasped by the user. Referring to Fig. 1, the bottom of the handle 110 is formed into a bottom flange 120 having a bottom surface 122. There are recesses 124 and 126 in the bottom surface 122 of the handle 112 which are used to receive the top of the spring housing 156, as described in detail below. Passages 128 and 120 in the bottom flange 120 are used for fasteners which connect the handle 110 to the frame 140.

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 The frame 140 has a head 150, shoulders 170, and a spine 200. In discussing the frame it should be understood that the frame is divided into two halves which are mirror images of each other. The following discussion of one of the frame halves is applicable to that half as well as its mirror image. Similar reference numerals correspond to similar

5 parts in the mirror image portion of the frame. The frame shoulder 170 includes posts 146 front and rear for coaction with posts 292 on applicator plate 290. Passages 148 in posts 146 and passages 294 in posts 292 cooperate with pivot pins 180. Pivot pins 180 have a shaft 184 connected to a head 188 and a cotter pin passage 192 at the other end of the shaft 184 to hold the pivot pin 180 in coactive disposition with the posts 146 of the frame
10 140 and posts 292 of the plate 290 to allow pivoting of the applicator plates 290 about the frame post 146. A torsion spring 310 wrapped around the pivot pin 180 has an element 314 which contacts the frame 140 and an element 318 which contacts the applicator plate 290 to urge the plate 290 to a closed position against the frame 140.

15 The frame has a head 150 which has passages 151 for spring units 152 that will be used to contact the separator guide blade 240 and urge it to the outward position. The spring units 152 have a housing 156 for a helical compression spring 160 which urges a plunger 146 downward into the passage 151 to contact the recess 244 in the blade head 242 as will be further described below.

20 Referring to Fig. 9, the frame 140 has a spine 200 extending down from the shoulder 170. The bottom of the spine 200 has a contact surface 202 for the plate 290 and the spine has a front 220 and a rear 230. The front 220 of the spine 200 has a contact surface 222 for contacting the inner portion 291 of the applicator plate 290 and has a recess 224 for the mounting curl 274 of the applicator pad 270. The front and the rear of the spine 200 can also be considered as the front and rear of the frame. The two halves
25 of the frame 140 are joined together by fasteners that pass through passages 210 which fasteners hold the two halves of the spine together. The spine 200 has a guide slot 206 located at the very bottom of the spine for the contact end 254 of the separator guide blade 240.

5 The separator guide blade 240 comprises a blade head 242 having recesses 244
to coact with the end of plunger 164 to position the blade 240 with respect to movement
perpendicular to the depth of the guide slot 206 and hold the blade 240 in position relative
to the front and back of the apparatus. The blade head 242 has a lip 248 which extends
perpendicular to the flat surface 252 of the blade body 250. The lip is large enough so as
10 to capture the blade within the enlarged slot 208 in the frame 140 which allows travel of the
lip 248 and head 242 which is much larger than the guide slot 206 and thereby captures
the blade 240. The blade 240 is resiliently urged downward by pressures of the plungers
on the blade head 242. When the contact end 254 of the blade 240 is pressed against
the line of intersection, it will compress the plungers 164, and allow the applicator pads 270
15 to move down on the intersecting surfaces until almost contacting each other, being
separated only by the width of the separator guide blade 240. The blade 240 will prevent
any spillage or crossover from one surface to the other as it moves down the line of
intersection of the surfaces. Referring to Fig. 10, the body 250 of the blade 240 has a front
256 and a rear 258, which extend slightly beyond the front 220 and rear 230 of the frame
20 140 of the edging apparatus.

 The applicator pads 270 are comprised of a backing member 272 which has
mounting curls 274 on its ends, and has an applicator nap 278 on the backing which is
used for loading the paint and applying the paint to surfaces. The mounting curls of the
applicator pads coact with the ends of applicator plate 290 and slide easily on the edges
25 of the plate 290 and can be removed by grasping the mounting curls 274 and sliding them
off the plate 290 without having to come in contact with the applicator nap 278. The
applicator pads are easily replaceable and have a standard design.

 The applicator plate 290 has L shaped fingers 300 which are intended to be grasped

5 by the thumb and the forefinger of the person using the paint edger as he grasps the grip
118 of the handle 110. By squeezing the fingers 300 of the applicator plates 290 together
against the bias of the torsion spring 310, via the action of the contact section 318 of the
torsion spring against the plate, the plates will be drawn into a parallel position with each
other rather than the 90 degree position. This will space the plates from the separator
10 guide blade 240 to allow the pads to be dipped into the applicable paint reservoirs for
loading the applicator pads without the danger of contaminating the other pad or any other
part of the apparatus. Optionally, a clip can be provided (not shown) which would hold the
fingers 300 of the applicator plates 290 together to maintain the pads 270 in the parallel
position while the device is not in use. The front 220 and rear 230 of the frame 140 have
15 recesses 224 in the front and 234 in the rear which will accommodate the mounting curls
278 of the applicator pads 270, while allowing the applicator pads 270 to contact the
contact surface 222 of the front 220 of the frame and the contact surface 232 of the rear
230 of the frame to ensure that the applicator pads are in the proper 90 degree position
for painting at dissecting surfaces.

20 The paint edger of the present invention can be used with extension poles to reach
inaccessible locations. Figs. 10-12 show a first embodiment for an extension pole mount
for the paint edger. The handle 110 of the edger 100 is removed and replaced with an
extension pole mount, generally indicated at 350, having a bottom surface 352 that abuts
the top of the spine 200 and has mounting holes 356 and 358 for being secured to the
25 spine 200. The extension pole mount 350 has a top surface 354 in which is formed a
threaded bore or socket receptacle 360 having internal threads 362 to receive a coupling,
indicated generally at 370, for the extension pole, the bottom of which is shown at 376.
The coupling 370 has a threaded plug 378 which engages the internal threads 362 of the
threaded bores 360 in the extension pole mount 350, and has a socket 372 with walls 382

5 in which are formed an internal threaded bore 374. The bottom of extension pole 376 is threaded into the internal threads 374 of the socket 372 and the socket plug 378 is threaded into the threaded bore or socket receptacle 360.

10 Therefore, much like with standard rollers, the paint edger can be moved along the intersection of wall and ceiling or other areas that are not normally accessible without a ladder.

Figs. 13 and 14 show a second embodiment of the extension pole mount. In this case, the device has a swivel arrangement to allow for more flexibility in the use of the paint edger in inaccessible places.

15 As shown in Figs. 13 and 14, the swivel extension pole coupling, generally indicated at 390, has a socket 392 with internally threaded walls 394 and a bottom surface 400 intended to receive in threaded engagement an extension pole, the bottom of which is shown at 396. The socket has a bottom 400. A base 404 extending from the bottom of socket 400 is pivotally connected to pivot arms 406,408 of the base of the socket 404. Pivot arms 406,408 pivot about pivot pin 410.

20 The coupling 390 could be formed as a fixed unit connected to the extension pole mount 350 rather than in a separate piece threadably engaged as shown here. As seen in Fig. 13, the socket 392 is free to pivot in an arc from the side of the extension pole mount 350 where the mounting hole 358 is located to the side where the other mounting hole 356 is located.

5 It is possible that a universal coupling could be substituted for the swivel coupling
390 to give even greater degrees of freedom of movement.

10 It will be understood that the embodiments described herein are merely exemplary
and that a person skilled in the art may make many variations and modifications without
departing from the spirit and scope of the invention. For example, the invention is not
intended to be strictly limited to the named ingredients, temperatures, or other parameters.
Rather, the invention as claimed extends to many possible variations not specifically
detailed. All such variations and modifications are intended to be included in the scope of
the invention as described herein.

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